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# Achieving Academic Excellence through Rigor and Relevance

by Willard R. Daggett, Ed.D.

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## What Defines Academic Excellence?

The changing nature of work, technology, and competition in the global job market has far outpaced what the U.S. education system provides for students, despite the ongoing efforts of educators and communities to improve their schools. Priorities and goals set by educators at all levels of academia are not closing the gap. The focus on state assessments as the one true measure of academic excellence is slowly but surely limiting our young people's chances of experiencing any semblance of the success in life that we expect for them and that they believe school will provide for them.

The present structure of the education system does students a tremendous injustice by not delivering the quality schooling we are capable of. State assessments play a role in education, but a score on a test will not help the student when he or she is competing for a job with someone from China or India. What is important is that students enter the global economy with the ability to apply what they learned in school to a variety of ever-changing situations that they couldn't foresee before graduating. That is the mark of a quality education and a truer indication of academic excellence.

Since the publication of *A Nation at Risk* in 1983, U.S. schools have experienced increasing pressure from government and business leaders to raise academic standards for all students. More recently, the *No Child Left Behind* (NCLB) legislation has caused states to take a serious look at their standards and assessment programs. Widespread changes in these programs are occurring nationwide in order to comply with the adequate yearly progress (AYP) provision of NCLB. Every district, school, superintendent, principal, and teacher in this country is feeling pressure to get all students to minimum proficiency levels.

While having all students achieve academic proficiency is a worthy goal, it should be only the starting line. State assessments have become so "high-stakes" that classroom instruction is geared toward the sole purpose of passing them. In this respect, state assessments have become the finish line. The student's ability to apply high-rigor knowledge in a relevant, real-world setting needs to be the true finish line; instead, it has become an afterthought.

Traditionally, instructional planning was divided into three components: curriculum, instruction, and assessment. In too many schools, these components are approached as three separate, sequential steps, with assessment being the finish line. In the 1990s, state standards entered into the equation as a fourth component. A rigorous and relevant education is a product of effective learning, which takes place when standards, curriculum, instruction, and assessment interrelate and reinforce each other. The value of state assessments is undeniable, but we cannot view them as the definition of academic excellence. Unfortunately, many of those in education do. When assessment is viewed as the end goal or finish line, the test itself becomes a barrier to high levels of student achievement. However, if curriculum, instruction, and relevant learning become the focus, the tests will take care of themselves.

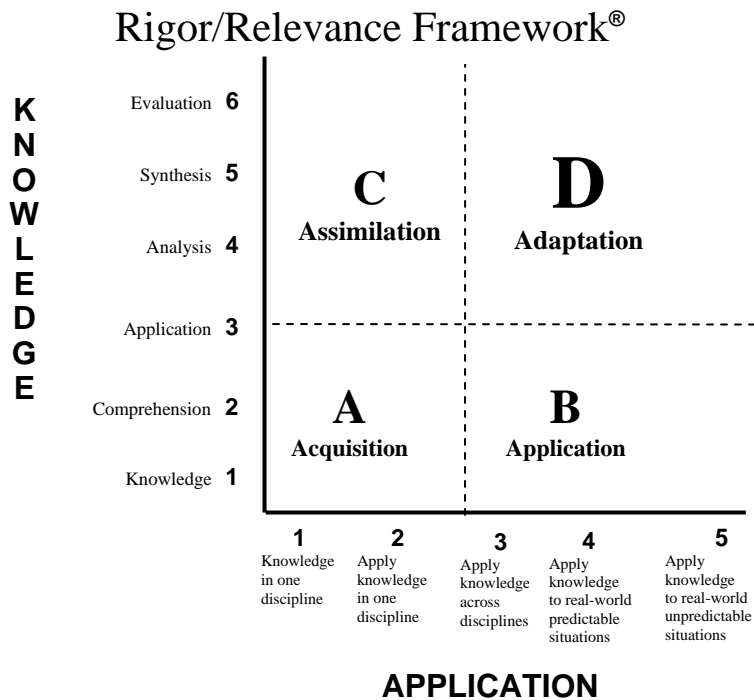
Globalization and rapid technological advancements are having dramatic effects on the ways we communicate and conduct business as well as in our personal lives. Education should increase students' understanding of the world around them. Unfortunately, there is little or no connectivity or integration between subjects and grades in most U.S. schools. As students move from class to class and progress to the next grade, they are exposed to isolated bits of content-specific knowledge, but they are not taught how what they learn in one class relates to another or its application in the world outside of school.

Incorporating more rigorous and relevant instruction in classrooms is a realistic goal and will yield immediate results in students' enthusiasm to learn. When students are engaged in the learning process, real achievement takes place, and their chances to excel at what they do increase. Often, all that is required is a change of attitude and the willingness to restructure education so that it prepares students for life, not just the state test or for more school. Effectively integrating subjects is an important step ... and it costs little.

### Rigor/Relevance Framework

Studies have shown that students understand and retain knowledge best when they have applied it in a practical, relevant setting. A teacher who relies on lecturing does not provide students with optimal learning opportunities. Instead, students go to school to watch the teacher work. The International Center's Rigor/Relevance Framework is a powerful tool that has captured the imagination of teachers to aspire to teach students to high rigor and high relevance.

All educators can use the Rigor/Relevance Framework to set their own standards of excellence as well as to plan the objectives they wish to achieve. This versatile Framework applies to standards, curriculum, instruction, and assessment.



When planning a lesson using the Rigor/Relevance Framework, it is important to maintain a consistent level of rigor and relevance. For example, if a teacher has lofty curriculum objectives in Quadrant D but develops instruction and test questions that are in Quadrant A, it is unlikely that students will reach the teacher's high expectations. Similarly, if a teacher designs high-rigor instructional activities but uses a low-rigor assessment tool, the test will not be an accurate measure of what students have learned.

When implementing the Rigor/Relevance Framework in a classroom, school, district, or state, it is of great importance to design instruction and develop assessments that measure Quadrant D skills. This enables students not only to gain knowledge, but also to develop skills such as inquiry, investigation, and experimentation.

In thinking about ways to incorporate the Rigor/Relevance Framework in instruction and assessment, it is helpful to consider the roles that students and teachers take. When instruction and expected student learning is in Quadrant A, the focus is on **teacher work**. Teachers expend energy to create and assess learning activities—providing lesson content, creating worksheets, and grading student work. In this scenario the student becomes a passive learner.

When instruction and expected learning moves to Quadrant B, the emphasis is on the **student** doing real-world **work**. This work involves more real-world tasks than Quadrant A and generally takes more time for students to complete.

When instruction and expected learning falls in Quadrant C, the **student** is required to **think** in complex ways — to analyze, compare, create, and evaluate. Traditionally, this has been the level of learning that students graduated from high school with.

Quadrant D learning requires the **student to think and work**. Roles have shifted from teacher-centered instruction in Quadrant A to student-centered learning. Quadrant D requires that students understand the standard or benchmark being taught thoroughly, but equally important, they must also understand and conceptualize relevant applications for the content being covered.

### **Role of Assessment at State and Local Levels**

Quadrant D implies high rigor and relevance, but this is not to be confused with a high level of difficulty. In fact, there are basic Quadrant A concepts that, in reality, are quite complex. Quadrant A concepts are taught in isolation, though. For example, mitosis — the “entire sequence of processes in cell division in which the diploid number of chromosomes is retained in both daughter cells” (*Webster’s II New College Dictionary*, 1995) — is a challenging concept for many people. However, it falls in Quadrant A because it merely requires understanding in one discipline.

During my presentations, I ask audiences if they know what a “blastocyst” is. The vast majority do not. A blastocyst is a stage of development of an embryo when it is around five days old and made up of about 100 cells. One must have a thorough understanding of this single but very complex concept, along with many other individual but similarly complex concepts, in order to enter the stem cell debate.

Quadrant A content is taught in isolation. Quadrants B and D give that content meaning and application. Students cannot perform at Quadrant B and D levels without first mastering Quadrant A skills and knowledge through the learning process. Debating one side for or against embryonic stem cell research is a classic Quadrant D activity because it requires that the debater develop a rigorous knowledge base to argue an issue that people of different backgrounds care very strongly about.

Designing local or state assessments at the various grade levels presents unique challenges. Designing the right assessment at all levels is essential to helping students achieve the desired level of rigor and relevance. To maximize student learning, it is important to identify the objectives of the learning experience prior to planning instruction and assessment. Assessments should be selected to match the desired level of rigor and relevance.

At the local level, performance-based assessments are an effective way for teachers to monitor whether students are able to understand the content and apply their knowledge. Well-constructed performance tasks help the teacher and students know if they really understand the material or if they are merely following a pattern they have learned for regurgitating information they have memorized. Students become better problem-solvers when they are given the opportunity to find original solutions to problems and reflect on what worked and what did not.

### **Rigor and Relevance in State Assessments**

State departments of education have the great but difficult responsibility to create fair and comprehensive assessments of the curricular content covered leading up to the state test. This was a difficult job before AYP. The compounded pressure of getting all students to attain minimum proficiency on state tests has begun to reveal some alarming trends.

State assessments are the most difficult aspect of K-12 education in which to incorporate both rigor and relevance. There are a number of reasons why this is so.

### **State Tests Need to Be Easy to Score**

In any state, the sheer number of students being tested and the vast array of standards and benchmarks to be assessed require that the exams be scored with expedience. Multiple-choice questions lend themselves to efficient scoring and are the most commonly used way to assess students' knowledge. With multiple-choice questions, the correct answer is always shown and the student needs only to choose wisely.

Multiple-choice questions, and therefore state assessments, tend to be predominantly Quadrant A-based. Quadrant D-based questions take longer for students to answer and evaluators to grade. There is also the challenge of scoring the work objectively and fairly for all students in the state.

### **Content Tested in Isolation**

State assessments test knowledge in one discipline, which lends itself to Quadrant A-based instruction and learning. To be in Quadrants B and D, learning must be interdisciplinary. With high-stakes state assessments, many teachers are inclined to identify the content in their subject area that is likely to be tested and teach to the test.

Educators and the public must recognize that it is often not feasible for state testing programs to test at high levels of rigor and relevance. Therefore, academic excellence cannot be defined by passing the state test, but rather hinges on the teaching and learning students experience throughout their entire education process. Educators who value a rigorous and relevant education for all students view the perception of the state assessments as the finish line as a great impediment to academic excellence. Only when people change their mind-set can schools get their priorities in order.

### **Cultural Bias**

State testing programs are under the microscope. With so many people with different views, values, and agendas paying close attention to what is on the test, test developers feel like they are walking a tightrope. So even though they may want to incorporate more relevant text passages and test questions in the assessments, developers are wary of presenting any content that might label the test or themselves as biased for or against a certain group.

Quadrant D, real-world test components are exposed to this sort of criticism. As in all things in life, what is relevant to some is not always relevant to others; state tests, first and foremost, need to be fair.

Whether consciously or not, state assessment programs test primarily in Quadrant A. Data collected by the International Center illuminates the status of rigor and relevance on state tests. Though it is difficult and costly to develop state assessments that are predominantly Quadrant D-based, it is critical that state leaders set targets to reach the maximum levels of rigor and relevance they are able to test.

By specifying targets for rigor and relevance in each assessment, a state education department can convey this information to schools and districts. State leadership could also inform teachers why, for the reasons identified above, it is not always feasible to test for high rigor and relevance on state tests and that they should set expectations for rigor and relevance in instruction and local assessments that exceed those of the state tests. This will not diminish the importance of tests, but rather place them in the proper perspective by emphasizing effective learning and instruction.

State tests should not be perceived as a tool for measuring everything that a student needs to know and be able to do before moving on to the next grade, an institution of higher education, or a career. Teachers should be inspired to be the ones who define academic excellence through a rigorous and relevant education and not delegate that responsibility to the state testing programs.

## **Emphasis on Effective Instruction**

In the U.S. education system, the most effective learning occurs in the elementary grades. Elementary teachers are not hindered by subject boundaries as much as in later grades, so interdisciplinary instruction occurs more naturally. Elementary teachers spend more time throughout the day with their students and that interaction allows for easier and more plentiful teaching opportunities than occur in later grades. Elementary students are uninhibited in their enthusiasm to learn and not afraid to ask questions. Many teachers would agree that the most effective means of teaching is answering students' questions, because they are showing interest in the subject and will remember the answer.

By the time students get to high school, instruction becomes segmented and many students become less engaged in the learning process. Their ability to investigate interconnections between what they learn is stifled because the teacher has too much material to cover and not enough time.

Students cannot attain a Quadrant D-level education one subject at a time. We need to allow students to explore for themselves the relevance of what they are learning.

At the high school level, career and technical education programs provide the most effective learning opportunities. Not only are students applying skills and knowledge to real-world situations in their CTE programs, but also they are drawing on knowledge learned in their core subjects. Students who participate in CTE programs should be well prepared for state exams because the academics they learn are used in Quadrants B and D. The key is to tie those academics to core content areas. In this respect, CTE teachers can be a great help to language arts, math, and science teachers by reinforcing the skills and concepts that students learn in those subjects.

The lecture approach to instruction, still so prevalent in high schools, supports students with Quadrants A and C learning styles, so these students tend to do better than Quadrants B and D learners under the present structure. Teachers who prefer the instructional strategy of lecturing are usually Quadrants A and C learners themselves.

The difference among the four quadrants of the Rigor/Relevance Framework in terms of academic complexity really relates to students' aptitudes, interests, and learning styles. In many cases, students who are quick to master theories (A/C) will struggle with applications (B/D) unless they are properly contextualized. Conversely, some students intuitively understand how to apply knowledge to a situation, but have trouble understanding the basic theory behind it. These students may be very bright, but they have trouble exhibiting that on the state tests because the assessments are not designed with their learning styles and aptitudes in mind.

If the rigor and relevance of Quadrants B and D became the predominant instructional practice, all students will benefit. Students with Quadrants A and C learning styles and aptitudes would be challenged to develop skills they will need to compete in the global job market. Although they may be great students and score well on tests, many are not prepared for success in the work force. Students with Quadrants B and D learning styles would finally get a chance to shine. With proper instruction, these students will understand the theory behind what they are learning. All students benefit because they will be challenged to achieve academic excellence, which ultimately boils down to applying rigorous knowledge to unpredictable, real-world situations, such as those that drive our rapidly changing world ... and the tests will take care of themselves.